

# **YEAR 2 ANNUAL EXPLORATION REPORT**

## **EL 28387 'GREEN ANT CREEK' TIPPERARY PROJECT FOR PERIOD ENDING 6<sup>TH</sup> JULY 2013**

**PINE CREEK SD5208  
FERGUSON RIVER SD5212**

**Titleholder: Territory Minerals**

Commodities: Rare Earth Elements, U, Cu, Pb, Zn

**Prepared for Territory Minerals**

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## 1. SUMMARY

EL28387 is 130km south of Darwin, and approximately 180km south of Darwin by road. Access from Darwin is via the Stuart Highway onto Dorat Road (from Adelaide River) then west onto the Daly River Road. EL28387 was granted for a period of six (6) years in 2011 to expire on 6th July 2017. The tenement was reduced to 93 blocks from 185 blocks at the end of year 2 in compliance with compulsory reduction requirements.

EL28387 is situated near the western margin of the Pine Creek Orogen. Middle Proterozoic sediments of the Tolmer Group are mapped as overlying the tenement. Further east, limestones and quartzarenites of the Cambro-Ordovician Daly River Group (comprising Tindall Limestone and Jinduckin Formation) form the Daly Basin.

Records of exploration date back to 1967 and AP licence #1682. Exploration phases have included searches for limestone, phosphate, base metals, gold, diamonds and uranium. Most of these programs have had limited success. Companies include IMC Development Corporation, Tipperary Land Corporation, Suttons Motors, Peko Wallsend, BHP, Carpentaria Exploration, Total Mining Australia, PNC Exploration, Newmont and Normandy.

Previous holders TUC Resources undertook exploration for unconformity related uranium mineralisation in the area. They targeted uranium associated with the mid Proterozoic unconformity between the Tolmer sediments and the Finniss River Group (Burrell Creek Formation). TUC completed a radiometric survey over the portion that is now EL28387.

Exploration targets include: stratabound Mississippi style base metal deposits, Unconformity related uranium mineralisation, carbonaceous shale units prospective for uranium, base-metal and REE mineralisation, REE mineralisation in similar settings to the nearby TUC Resources Stromberg and Scarramanga Prospects.

Exploration on this tenement was postponed whilst the company re-organised its exploration strategy and land holdings with a view to be listed on the ASX during 2013. This re-organising is progressing successfully, although taking longer than expected, and includes the acquisition of a large gold project in far north Queensland from Republic Gold.

## 2. LOCATION AND ACCESS

EL28387 is 130km south of Darwin, and approximately 180km south of Darwin by road. Access from Darwin is via the Stuart Highway onto Dorat Road (from Adelaide River) then west onto the Daly River Road. Tipperary Station is situated in the northern end of the tenement. Tracks extend west and south of Tipperary Station, with the southern track accessing the Daly River at Beebom Crossing. Access is only possible in the dry season because the crossings at Beeboom Crossing and smaller tracks to the west are impassable after rains.

## 3. TENEMENT STATUS AND OWNERSHIP

EL28387 was granted for a period of six (6) years in 2011 to expire on 6th July 2017. The tenement was reduced to 93 blocks from 185 blocks at the end of year 2 in compliance with compulsory reduction requirements. There are no other mining leases or mineral claims shown within the Licence boundaries.

Underlying cadastre (Figure 1) is perpetual pastoral lease summarised in the table below.

NT Portion/Section Number	Names of Owners/Occupiers	Address
000 03435	Indigenous Land Corporation	GPO Box 652, Adelaide SA 5001
000 02682	Tovehead Pty. Limited & Branir Pty Ltd	PMB 39, Winnellie NT 0822

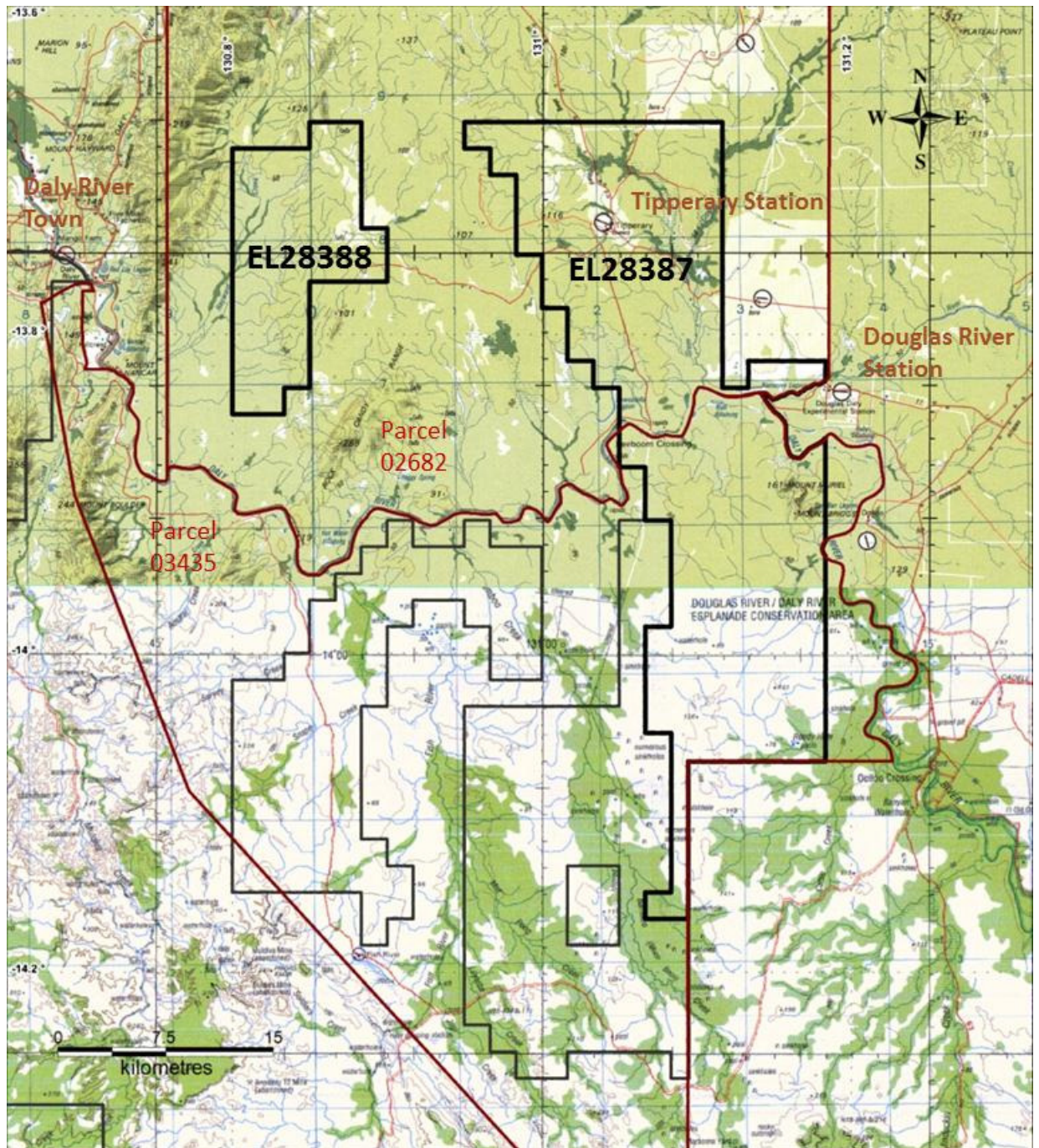


Figure 1 Tenement Location Map



## 4. GEOLOGY

EL28387 is situated near the western margin of the Pine Creek Orogen on the SD5208 Pine Creek sheet. Descriptions of the regional geology can be found in several texts, including Ahmad et al., 1993; Ahmad, 1998; Dundas et. al., 1987; and Pietsch 1989. Figure 2 has the simplified geology from the Pine Creek 250,000 Metallogenic Map Series to show the main stratigraphic components within EL 28387.

Middle Proterozoic sediments of the Tolmer Group are mapped as overlying the tenement. The Tolmer Group is a sequence of arenite, siltstone and dolomite up to 1600m thick unconformably overlying Early Proterozoic Finniss River Group sediments. The Hinde Dolomite is the most commonly mapped stratigraphic unit of the Tolmer Group within EL28387. Fault splays from the Giants Reef Fault to the west offset and thrust blocks of Depot Creek Sandstone adjacent to Stray Creek Sandstone in the Rock Candy Range to the west of the tenement.

Further east, limestones and quartzarenites of the Cambro-Ordovician Daly River Group (comprising Tindall Limestone and Jinduckin Formation) form the Daly Basin. These sediments cover most of the area east of Which Wai Creek. The basin consists of Cambrian limestone sediments which obscure the mineral prospective lower Proterozoic sediments and severely limits exploration efforts.

Potential could exist for Barite and low grade base metals within the basin sediments but historical exploration in the area has failed to discover any economic grade mineralisation. There is also little evidence of radiometric or magnetic anomalies within the tenement. Exploration for early Proterozoic basement rocks (prospective for uranium and base metal mineralisation) beneath the basin is a possibility and is discussed below.

On the eastern boundary of EL28387 a drill hole has been drilled through the limestone cover and indicates that the depth of the basin is approximately 600m at this location. Although such depths are prohibitive to exploration the cover becomes rapidly shallower to the west, where it is estimated to be 100m or less at the western boundary of EL28387. It is therefore possible that in some locations the Burrell Creek formation (lower Proterozoic basement) is within 100m of the surface on EL28387 and EL28506. Any deposits within the Burrell Creek Formation, beneath the cover, would have been masked from historical surface exploration and geophysics and remain undiscovered.

RC drilling to explore beneath the cover is feasible along the western side of EL28387 and in EL28506 where the cover is thinnest. Even so there is considerable risk to this interpretation as it is uncertain whether there will be a sequence of the Tolmer Group



Sediments (mid Proterozoic cover sediments including the Stray and depot Creek Sandstones) beneath the limestone basin.

An NT government drill hole 25km south west of EL28387, close to the deepest part of the basin, was drilled through the basin (760m). The Burrell Creek formation was intersected immediately beneath the basin sediments demonstrating that the Tolmer Sequence may be absent under this section of the basin. Also drilling by TUC at prospect Green, only a few km to the west of this tenement (targeting the same lower Proterozoic rocks), indicated that the Tolmer sediments were shallowing to the east and to the north (towards EL28506 and EL28387).

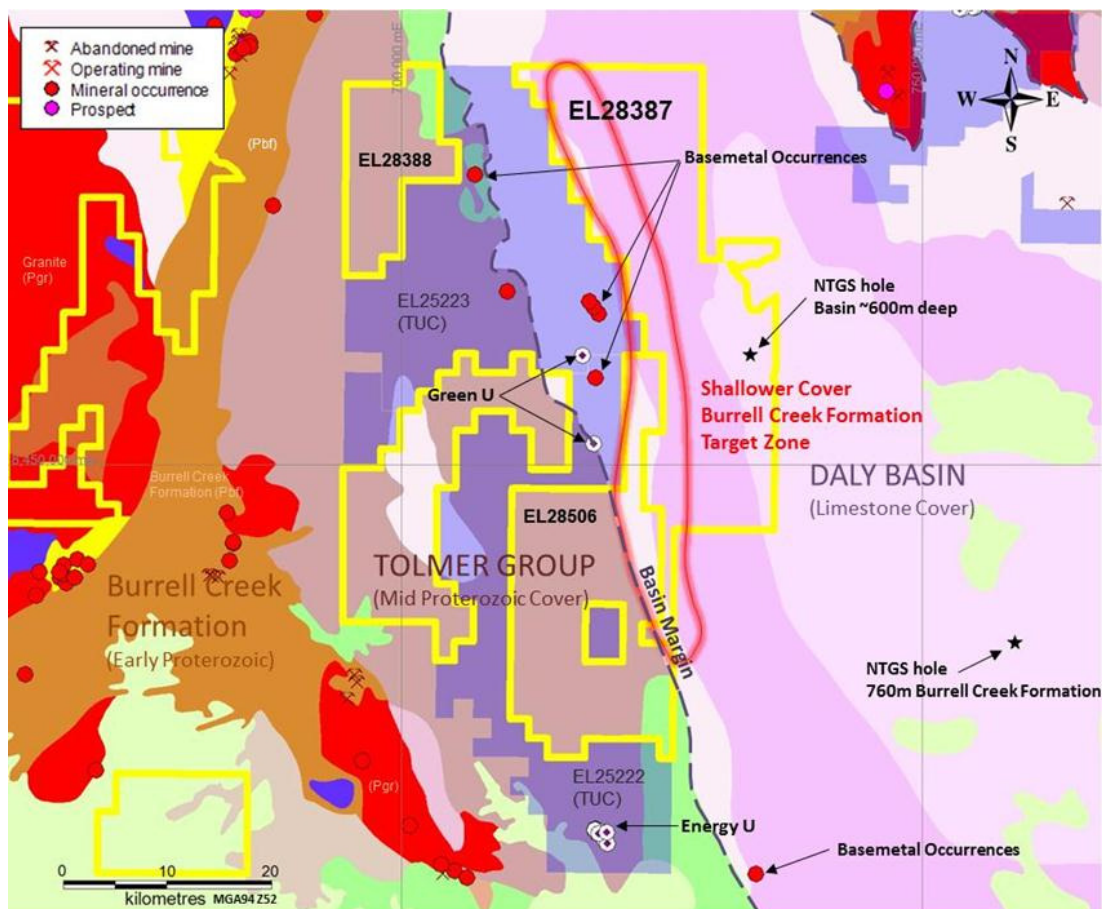


Figure 3 Tenement Geology (1:250K)



## 5. PREVIOUS EXPLORATION

Records of exploration date back to 1967 and AP licence #1682. Exploration phases have included searches for limestone, phosphate, base metals, gold, diamonds and uranium. Most of these programs have had limited success. Companies include IMC Development Corporation, Tipperary Land Corporation, Suttons Motors, Peko Wallsend, BHP, Carpentaria Exploration, Total Mining Australia, PNC Exploration, Newmont and Normandy.

Previous holders TUC Resources undertook exploration for unconformity related uranium mineralisation in the area. They targeted uranium associated with the mid Proterozoic unconformity between the Tolmer sediments and the Finniss River Group (Burrell Creek Formation). TUC only completed a radiometric survey over the portion that is now EL28387.

## 6. EXPLORATION DURING YEAR 1

Exploration was postponed whilst the company re-organised its exploration strategy and land holdings.

Geological review of the tenement highlighted the following:

Recent exploration activity in the area has discovered significant rare earth element and uranium mineralisation (Stromberg, Drax and Quantum – TUC Resources) in the same stratigraphic and structural terrane to that covered by this project (Figure 2). The REE mineralisation at Stromberg has excellent mineralogy (xenotime) with a high heavy rare earth component (the more valuable of the REEs) and is within Tolmer sediments. Stromberg and Scaramanga both have trends striking onto Territory Minerals Tipperary Project (Figure 2).

Exploration targets include:

- Stratabound Mississippi style base metal deposits within the Tolmer and Daly Basin Sequences.
- Unconformity related uranium mineralisation associated with the unconformity between the Lower Proterozoic Burrell Creek Formation and the Tolmer Sequence. In most areas this unconformity is relatively deep, however, at the eastern side of the project (EL28506 and EL28387) these prospective lower Proterozoic units may be within 100m of the surface hidden below the Cambrian Daly Basin cover (based

on EM interpretation) – Figure 2. In other areas, zones of structural complexity may have brought this contact closer to the surface (EL28507).

- Carbonaceous shale units prospective for uranium, base-metal and REE mineralisation within the Tolmer Sequence. These carbonaceous units have been identified by historical exploration (on EL28507) and EM geophysics but have not been tested for uranium or REE mineralisation.
- REE mineralisation in similar settings to Stromberg and along regional uranium radiometric trends (eg EL28506, EL28507 and the western margin of EL28387 exposed and beneath shallow parts of the Daly Basin, Figure 2).
- A number of major fault structures that originate from the highly prospective Giants Reef Fault cross the project (EL28507) and provide a conduit for mineralising fluids. These structures are mineralised 10km to the SW of the project within Crossland Uranium's ground.

The combination of these factors give new exciting exploration models that have yet to be tested on this tenement.

## **7. EXPLORATION DURING YEAR 2**

During 2011 Territory Minerals commenced a reorganizing of its exploration strategies and land holdings with a view to be listed on the ASX in 2012. During this process exploration was postponed on this license.

By October 2011 Territory Minerals had successfully entered into a sale agreement to purchase Republic Gold's Far North Queensland (FNQ) tenements including the Northcote and Tregoorra gold deposits which are at bankable feasibility stage. All tenements were transferred into Territory Minerals name.

However due to the deflated financial climate over the past year the listing of Territory Minerals did not progress as quickly as hoped, with plans now to list in during 2013. Listing on the ASX remains a priority for the company with recent developments by Territory Minerals towards this goal including the purchase of the remaining minority equity in the Northcote Project held by Fe Limited.

## **8. CONCLUSION/RECOMMENDATION**

Once completed, Territory Minerals believes the planned ASX float will put the company in an even stronger position to make discovery through exploration on its NT and Queensland Projects.

Should the float not be completed during year 3 Territory Minerals still intends to explore its NT licenses to add further value to its holdings.

## 9. REFERENCES

- Ahmad, M., 1998. Geology and mineral deposits of the Pine Creek Inlier and McArthur Basin, Northern Territory. *AGSO Journal of Australian Geology and Geophysics*, 17(3), pp1-17.
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